

REMARKS

Reconsideration of the present application in view of the above amendments and following remarks is respectfully requested.

Status of the Claims

Claims 20-49 are presented. Claims 34-37 and 41-44 were withdrawn by the Examiner as being drawn to a nonelected invention. Claims 20-25, 27-29, 31 and 33 are amended for clarity. All claims are amended to recite a "reaction medium" for enzyme-catalyzed reactions. Support is found throughout the specification as originally filed. Claim 20 is also amended to emphasize that the reaction medium is capable of supporting an enzyme-catalyzed reaction selected from the group consisting of hydrolysis, esterification and transesterification. Support for the Markush group of enzymatic reactions is found, *inter alia*, in original claim 13, now cancelled. Claim 22 is also amended to correct claim dependency, as supported in original claim 3, now cancelled. Further, claim 29 is also amended to include the range of ratios as supported, *inter alia*, in original claim 7, now cancelled. Claims 26, 30, 32 and 38-44 (including withdrawn claims 41-44) are cancelled without prejudice to pursuing claims of the same or similar scope in a continuation or divisional application. New claims 45-49 are added. Support is found throughout the specification as originally filed.

Claim 20-25, 27-29, 31, 33 and 45-49 are presented for examination.

No new matter has been introduced.

Summary of the Invention as Claimed

One aspect of the invention as presently claimed is drawn to a **reaction medium for enzyme-catalyzed reactions** comprising an oil-in-water emulsion comprising (a) water, (b) **at least one** emulsifier, and (c) an oil phase, wherein the emulsion is produced by the phase inversion temperature (PIT) process, with a

droplet size of 50-400 nm, which reaction medium is **capable of supporting an enzyme-catalyzed reaction selected from the group consisting of hydrolysis, esterification and transesterification** (claims 20-25, 27-29, 31 and 33). Another aspect of the invention as now claimed is drawn to a method of carrying out an enzyme-catalyzed reaction comprising running the reaction in the reaction medium described above (new claims 45-49).

Nonstatutory Obviousness-Type Double Patenting Rejections

Previously pending claims 20-23, 25, 28-32 and 38-40 were provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 24-25, 27-29 and 31-32 of copending Application No. 11/816,419, Attorney Docket No. C 3032 PCT/US. Since there has been no indication of allowable subject matter, and in view of the provisional nature of this rejection, applicants respectfully request that they will consider the filing of an appropriate terminal disclaimer when and if allowable subject matter is indicated to exist in the present application. Accordingly, the Examiner is respectfully requested to hold this rejection in abeyance until prosecution of 11/816,419 and the present application are each more advanced.

Rejections under 35 U.S.C. § 101 and 112, second paragraph

Previously pending claims 38-40 were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter, combining both a product and method steps (two different statutory classes of invention) in the same claim.

Previously pending claims 38-40 were also rejected under 35 U.S.C. § 112, second paragraph, as being unclear whether the claims are product claims or method claims.

Even though applicants do not necessarily agree with the Examiner's characterizations of claims 38-40, in order to further prosecution of the

application, claims 38-40 have been cancelled without prejudice in the present reply, thereby obviating the Examiner's rejections.

Rejections under 35 U.S.C. § 102(b)

Previously pending claims 20-23, 25-33 and 38-40 were rejected under 35 U.S.C. § 102(b) as being anticipated by Molitor et al. (DE 19923785, English abstract and machine translation; "Molitor"). Applicants respectfully traverse the rejection.

Molitor discloses oil-in-water emulsions comprising water, emulsifiers and an oil phase, including fatty acid methyl esters and/or triglycerides, prepared by the PIT process, having a droplet size of 50-400 nm, and useful in fermentation processes. The emulsions are useful as carbon (nutrient) sources and for oxygen transfer for growing the cells during the fermentation process. The fine droplet size is disclosed to provide rapid access for the microorganisms to the nutrients, as well as efficient gas exchange, thereby allowing stirring speeds to be reduced (Derwent abstract).

Even though applicants do not necessarily agree with the Examiner's characterizations of Molitor, in order to further prosecution, the claims have been amended in a manner which obviates the Examiner's rejections. As currently amended, the claims are drawn to a **reaction medium for an enzyme-catalyzed reaction**, comprising water, at least one emulsifier and an oil phase, **wherein the reaction medium is capable of supporting an enzyme-catalyzed reaction** selected from a Markush group. The reaction medium supports an isolated, enzyme-catalyzed reaction, not cell growth. In order to further distinguish applicants' invention over the cited art, new claims 45-49 are added which claim a method of carrying out an enzyme-catalyzed reaction, not cell growth as would be required for fermentation.

In view of these amendments, applicants' claims as presently amended define subject matter which is both novel and patentably unobvious over Molitor.

Rejections under 35 U.S.C. § 102(b) or 103(a)

Previously pending claims 20-33 and 38-40 were rejected under 35 U.S.C. § 102(b) as being anticipated, or in the alternative under 35 U.S.C. § 103(a) as being obvious over Molitor. Applicants respectfully traverse the rejection.

Molitor is discussed above. As noted by the Examiner, Molitor fails to teach the limitations of claim 24 wherein the oil phase is present in an amount of 20-50% by weight.

Again, even though applicants do not necessarily agree with the Examiner's characterizations of Molitor, in order to further prosecution, the claims have been amended in a manner which obviates the Examiner's rejections. As currently amended, the claims are drawn to a **reaction medium for an enzyme-catalyzed reaction**, comprising water, at least one emulsifier and an oil phase, **wherein the reaction medium is capable of supporting an enzyme-catalyzed reaction** selected from a Markush group. The reaction medium supports an isolated, enzyme-catalyzed reaction, not cell growth. Thus, in the claims as presently amended, the fatty ester/glyceride oil phase components serve as the **substrates** for the enzyme-catalyzed reactions. In contrast, the fermentation processes of the cited art utilize the fatty ester/glyceride components as carbon sources, or **nutrients**, for the growth of cells.

In order to further distinguish applicants' invention over the cited art, new claims 45-49 are added which claim a method of carrying out an enzyme-catalyzed reaction, not cell growth as required for fermentation processes.

In view of these amendments, applicants' claims as presently amended define subject matter which is both novel and patentably unobvious over Molitor.

Conclusion

In summary, in view of the above claim amendments and remarks, applicants believe that all of the pending claims as amended are in condition for allowance. The Examiner is respectfully requested to reconsider, withdraw the rejections and allow the claims.

If any additional fees are required in support of this application, authorization is granted to charge our Deposit Account No. 50-1943.

Respectfully submitted,

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